



State of Utah

Department of
Environmental Quality

Dianne R. Nielson, Ph.D.
Executive Director

William J. Sinclair
Deputy Director

OLENE S. WALKER
Governor

GAYLE F. McKEACHNIE
Lieutenant Governor

MEMORANDUM

TO: Members of the Legislative Hazardous Waste Regulation and Tax Policy Task Force

FROM: Bill Sinclair, Deputy Director
Utah Department of Environmental Quality

SUBJECT: Legislative audit report: Communications to the Task Force Imply Regular Oversight of Groundwater Program

DATE: June 1, 2004

On page 31 of the Legislative audit report, information is presented that would indicate that the department implied to the task force, that certain oversight activities were being conducted that in actuality were not conducted. The department provided information to the Task Force in June, 2003, regarding groundwater monitoring and split sampling provided in 6-2 which is attached. That handout describes the responsibility of the waste site owner/operator, and discussed step-by-step evaluation of such a program by the department. Attachment 6-2 (see bullet #6) did state, as indicated by the audit report, that "For groundwater wells monitoring monitored by the Division of Radiation Control, wells are sampled on a semi-annual basis." It is important to read 6-2 in its entirety. Under "Response," first sentence, it clearly states that "the licensee is responsible for conducting groundwater sampling. . ." In the context of the memo, at facilities where the Division of Radiation Control is the regulator, (at Envirocare), the licensee conducts semi-annual groundwater monitoring.

The audit report further states that: "We believe this lack of clarity in the department's website can lead readers to believe that DRC has been consistently conducting split sampling semi-annually." Bullets 9, 10, and 11 of Attachment 6-2 clearly describe the department role regarding opportunities to collect a split sample, what the purpose of a split sample is, and an estimate of the cost of a split sample of groundwater. Additionally, the groundwater monitoring at waste facilities was further explained in the November 18, 2003 testimony (attached) and again it emphasized that: "Licenses and permits for commercial waste facilities. . .require the licensee or permittee to establish a groundwater monitoring network, periodically collect groundwater samples, have the samples analyzed by a qualified laboratory, and submit results to the appropriate regulatory agency."

The Department has supplied accurate information to the task force. We believe that the attached information presents a clear understanding of how groundwater monitoring is accomplished at commercial waste facilities. We also believe that the task force has the correct picture in terms of the responsibilities of the owner/operator of a commercial waste facility and the responsibilities of the department as the facility regulator.

Legislative Audit Report excerpt – page 31

Communications to the Task Force Imply Regular Oversight of Groundwater Program. We believe the department has implied to the task force, that certain oversight activities were being conducted that in actuality were not. For example, reported to the task force, via its website, that, “For groundwater wells monitored by the Division of Radiation Control, wells are sampled on a semi-annual basis.” In another location of this same report, DEQ states, “During a semi-annual sampling event, inspectors will accompany the licensee’s sampling crew and observe the sampling methods...” We believe that lack of clarity in the department’s website can lead readers to believe that DRC has been consistently conducting groundwater split-samples semi-annually. In actuality, the site operator conducts semi-annual groundwater samples, not the division.

Attachment 6-2, Groundwater Monitoring

6 - 2 GROUNDWATER SAMPLING

**ISSUE: Are the environmental monitoring procedures for
groundwater sampling appropriate?**

RESPONSE:

The licensee is responsible for conducting groundwater sampling, as well as other environmental compliance monitoring, in accordance with license conditions and regulatory requirements, including constituents sampled, type of samples, frequency of sampling, and reporting of sample results. The regulatory agency collects split samples at times it deems appropriate to confirm acceptable sampling and chain of custody procedures of the licensee, as well as the performance of the independent analytical lab. DEQ does not recommend that all sampling be conducted by DEQ; nor is it recommended that split samples be collected and analyzed for all compliance monitoring.

BACKGROUND:

- Envirocare is required by license conditions to perform environmental monitoring of their site. This includes continuous sampling of air particulates, and periodic sampling of vegetation, soil, and groundwater.
 - Licenses and permits for commercial waste facilities throughout the United States require the licensee or permittee to collect the samples, have the samples analyzed by a qualified laboratory, and submit the results to the appropriate regulatory agency.
 - At the Envirocare facility, the entire site is subject to a state groundwater protection permit that prescribes the regulatory standards. There are additional standards imposed by the NRC for the uranium mill tailings area and the Division of Solid and Hazardous Waste for the mixed waste area.
 - The licensee/permittee is required to review the sampling results and is required to notify the regulatory agency if certain conditions exist (e.g., if a parameter, such as lead, has exceeded the regulatory standard).
 - Commercial radioactive waste facilities are monitored for both radiologic (e.g., radium, uranium) and nonradiologic parameters (e.g., heavy metals, volatile and semi-volatile organics).
 - The regulatory agency monitors the results in the reports, evaluating whether the results exceed appropriate regulatory standards or whether trends are developing that might result in a problem in the future.
 - If the groundwater parameters remain in compliance, the frequency of groundwater monitoring may be reduced. For groundwater wells monitored by the Division of Radiation Control, wells are sampled on a semi-annual basis.
- Groundwater at the Envirocare site is very saline. Use of the groundwater would not be possible without extensive treatment.
- Oversight of the groundwater monitoring program is conducted in two ways:
 - First, the groundwater monitoring program is permitted. This means conditions and standards are set that Envirocare must meet, and any changes to the program must be evaluated. Second, the program is routinely inspected.
 - During a semi-annual sampling event, inspectors will accompany the licensee's sampling crew and observe the sampling methods including sample collection and chain of custody

procedures. If a sample collected by Envirocare is to be split, the Division collects the split sample at that time.

- The purpose of split sampling is to verify the data from the laboratory that Envirocare is using, by also sending the split sample to the State Health Laboratory or one of its contract laboratories for analysis.
- There is significant cost for a split sampling event for the State. Obtaining a split from each well being sampled and having the full suite of parameters analyzed for each well by the State Health Laboratory or one of its contract laboratories costs approximately \$80,000 per sampling event. The Division of Radiation Control recently established a policy that 30% of the wells will be split-sampled during a calendar year.

Testimony before the Hazardous Waste Regulation and Task Force of November 18, 2003
describing groundwater monitoring at waste facilities

8. Describe groundwater monitoring at waste facilities. Are current practices adequate? How do DEQ's requirements and practices at Envirocare compare with those in South Carolina and Washington?

Groundwater sampling was described in Tab 6-2 of DEQ's initial submission:
(http://www.deq.state.ut.us/EQOAS/task_force/6.2.pdf).

Licenses and permits for commercial waste facilities (solid, hazardous, and

radioactive waste) require the licensee or permittee to establish a groundwater monitoring network, periodically collect groundwater samples, have the samples analyzed by a qualified laboratory, and submit results to the appropriate regulatory agency. The licensee/permittee is required to review the sampling results and is required to notify the regulatory agency if certain conditions exist (a parameter has exceeded the regulatory standards). The regulatory agency monitors the results in the reports, evaluating whether the results exceed appropriate regulatory standards or whether trends are developing that might result in a problem in the future.

The groundwater program is permitted and inspected. For example, during an inspection, DEQ personnel will accompany the sampling crew and make observations and may collect split samples which will be sent to the state health laboratory or a contract laboratory to verify the data.

Groundwater monitoring programs at the radioactive waste facilities in Barnwell, South Carolina and Richland, Washington operate similarly. However, in the case of Barnwell, there is an ongoing corrective action program regarding tritium and Carbon-14 in the groundwater below the Barnwell site. In the case of Richland, there is groundwater contamination from activities on the existing Department of Energy site that is approaching the Richland facility. Information on these facilities and releases is found at:

Barnwell: (http://www.deq.state.ut.us/EQOAS/task_force/11.5.pdf).

Richland: (http://www.deq.state.ut.us/EQOAS/task_force/11.6.pdf).

Both facilities collect split samples on a periodic basis. Typically a percentage of the wells are split sampled during every sample period. Groundwater at the landfill sites in the West Desert (Envirocare and Grassy Mountain) is viewed as a potential future drinking water resource even though the groundwater at these facilities is very saline.